



Climate Action
Accelerator

Avec la
participation de


**MINISTÈRE
DE L'EUROPE
ET DES AFFAIRES
ÉTRANGÈRES**
*Liberté
Égalité
Fraternité*

The latest emission factor database update in the calculator:

Key changes and practical guidance



Climate Action
Accelerator

HCC Technical session



Thursday 17 September 2026 | 10:00 CET



Online on Teams

Practical information

AGENDA

- 10:00 | Welcome & Introduction
- 10:05 | A bit of theory of emissions factors:
what they are, types, examples of
choosing them, pitfalls
- 10:20 | Updating emission factors in the HCC
Methodology
Update vs. upgrade
- 10:40 | Q&A / peer exchange
- 10:55 | Wrap up & final remarks

- This webinar is **recorded** and will be made available on **replay** on our website and YouTube channel
- **Your audio and video is off by default**
- To ask a question, please **write in the Q&A** section. The moderator will read out questions during the Q&A session



Who we are

The **Climate Action Accelerator** is a non-profit initiative based in Geneva that aims to mobilise a critical mass of high-social trust organisations around the world to scale up implementation of climate solutions within planetary boundaries, keep global warming below 2°C and avoid the risk of dangerous drift.

The goal is to help move the aid, health and higher education sectors towards greater resilience and a radical transformation of their practices, pursuing emission reduction targets and a 'net zero' trajectory, in line with the Paris Agreement.



AID



HEALTH



HIGHER EDUCATION
& RESEARCH

Our pillars

EMPOWER

Empower organisations to reduce their emissions by 2030 and prepare for greater resilience through a hub of expertise and resources.

CHAMPION

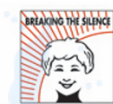
Transform them into ambassadors of change within their networks, capable of influencing their peers.

COMMUNITY

Build a global community of action, sharing climate solutions as a universal common good, to scale up their deployment.



Our 43 partners



ব্রেকিং দ্য সাইলেন্স



Todays' speakers



Juan Galvez

Independent Consultant
for The Climate Action
Accelerator



Quentin Roques

Climate Analytics Officer,
Climate Action Accelerator



Gaspar Doubrovik

Climate Analytics Intern,
Climate Action Accelerator

Humanitarian Carbon Calculator

WEBINAR & TECHNICAL SESSIONS 2026

Block 1:
Foundational webinars

Block 2:
Practical onboarding

Block 3:
Technical sessions

What's new
for the HCC?

26 Feb

Calculator
walkthrough

11 Jun

Emission factor
database update

17 Sep

Today

Introducing
HCC v3

26 Nov

5 & 7 May

Greening cash &
voucher assistance

9 Jul

Data collection
challenges

15 Oct

Beyond the numbers:
from footprint to action



Use this
QR code
to register



Emission Factors:

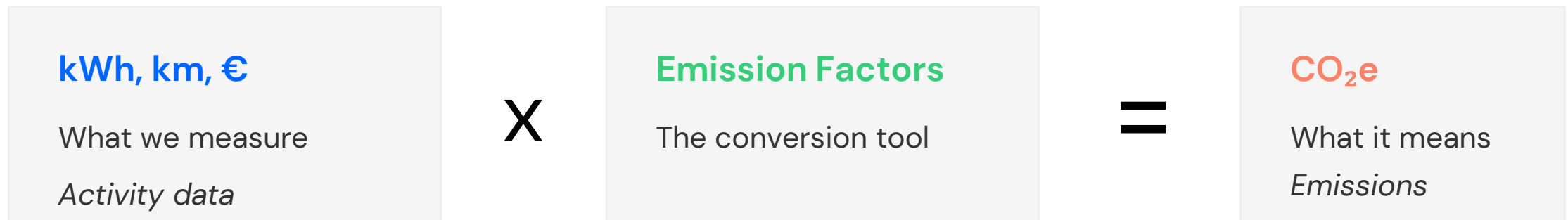
From Theory to HCC Practice

How to choose, update and use emission factors effectively



Why emission factors matter

Without emission factors, activity data are just numbers



The bridge between "what we measure" and "what emissions mean"



What is an emission factor?

A multiplier that turns activity into emissions

Activity Data

100 kWh

X

Emission Factor

0.05 kg CO₂e/kWh

=

Emissions

5 kg CO₂e

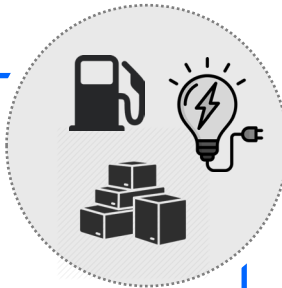
Think of it like a recipe: ingredient + method = result



Two types of factors

Physical factors are more accurate; financial factors are easier (but less precise)

Physical



- Based on: kWh, kg, km, litres, units
- Direct link to the emissions source
- More trustworthy

Financial



- Based on: €, \$
- Easier when you only have spend data
- Price fluctuates

Where do factors come from?

Multiple sources exist from generic overviews to hyper-specific studies

Generic Databases

ADEME, DEFRA: Broad, standardised factors for common activities

Specialized Databases

Boavizta (electronics), Agribalyse (food):
Deep dives into specific products/sectors

Life Cycle Assessments

Comprehensive studies from raw materials to disposal, very thorough and very specific



Scale matters

Factors vary by geography and product detail

Geographic

- Country-specific
- Regional
- Global

Product detail

- Specific product
- Category
- Generic



Date also matters

Factors vary by time period

Time dimension

Year-to-year changes because of 3 main reasons :

- Grid decarbonisation
- Technology evolution
- Methodological evolution



How to pick the right factor

The best factor depends on your goal/the situation you are in :

Here are 3 typical situations in which you can look for a new emission factor

**Hotspot
hunting?**

Start with generic factors (good enough to find what matters)

**Deep-dive
comparison?**

Use specific or LCA factors

**Unit
mismatch?**

Convert with transparent assumptions
Document clearly and mention uncertainty



How to pick the right factor

Example 1:

(Hotspot hunting)



IT & Telecom

Small share of all emissions

Small leverage to negotiate with vendors (or find alternatives)



Category monetary emission factor

more than enough, at least to begin

(Deep-dive comparison)



Humanitarian products

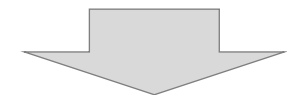
More than 50% emissions

Spend analysis to identify top 10 products



Different activity emission factors

mainly for top spend/volume products



Product LCAs

for some of them



How to pick the right factor

Example 2 : (Unit mismatch)

Initial situation :

You want to calculate the emissions of a procurement item
(for example the **shelter family tent**)

You look into the HCC you find an EF in **kgCO₂e/unit**

You look into your data you only have the amount **spent in \$**

Solution :

Do not search for another EF

Try to estimate (with data or knowledge for your shelter team if possible) the number of tent corresponding to this spent.

Important = to **stay transparent** and to **double check** your estimation if you discover that this item is a hotspot



Pitfall 1: Unit errors (the silent killer)

Small unit mistakes mean massive calculation errors

Mixing **kWh** with **MWh**

- 1000x error
- Catastrophic

Always double-check: Is your activity data in the same units as the factor?

If not: Convert clearly, document your assumption, mention uncertainty



Pitfall 2: The perfection trap & time comparisons

Accept "good enough" and compare the right thing over time

The perfection trap

You'll never have the exact factor for your item + year + country

It's okay. Good enough exists.

Year-to-Year issue

Reasons why factors change:
grid decarbonises, technology improves, calculation methodology improves

Case 1 : new emission factor available

The emissions change might depend more on this than on any decarbonization solution implemented = problematic

Case 2 : no new emission factor available

The new emissions might be overestimated

Main solution : compare the physical data when possible (we will see more on this during next HCC technical session)



Side step on Life cycle analysis (LCA)

Even LCAs do not give perfect emission factors (and that is not their main goal)

Context-dependent

Supplier specificity: same product, different factory
= different impact

Assumption-heavy

Change one assumption = different emission factor

LCA often does not apply exactly to your context

What LCAs really do: **Systemic understanding** ("cradle-to-grave" analysis)

Beyond carbon

See pollution, water use, biodiversity, health, not just CO₂e

Lifecycle phases

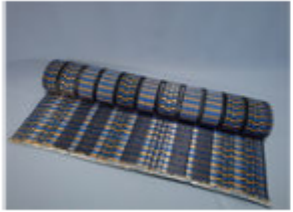
Where do impacts actually happen: extraction, manufacturing, transport, use, end-of-life?

Test solutions

Once hotspots found, model what-if scenarios: longer lifespan? greener materials? recycling?



Example of Life cycle analysis (LCA)



Plastic Floor Mat

- Mass: 860g
- Contents: Virgin polypropylene
- Plastic packaging material: LDPE film

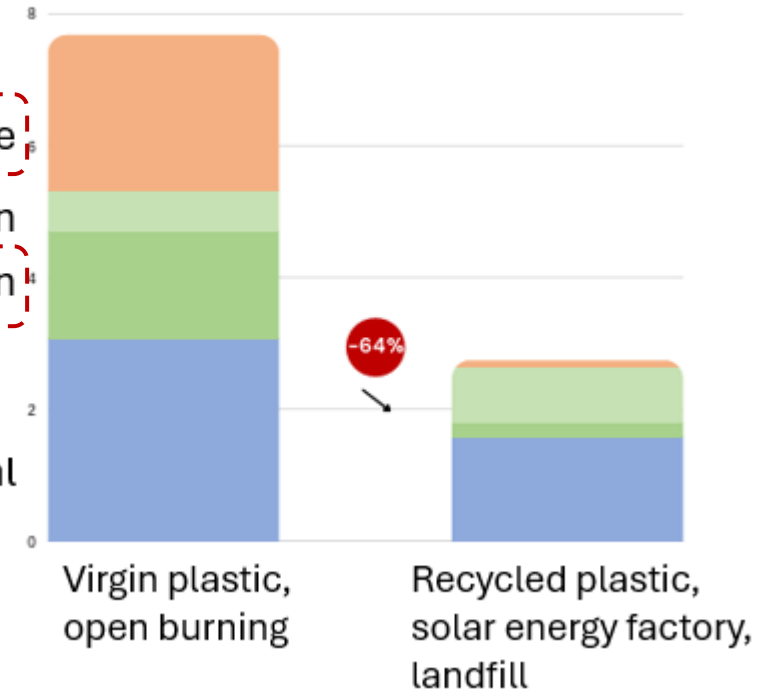


Areas to focus analysis of possible decarbonisation solutions

End-of-Life
Transportation
Production

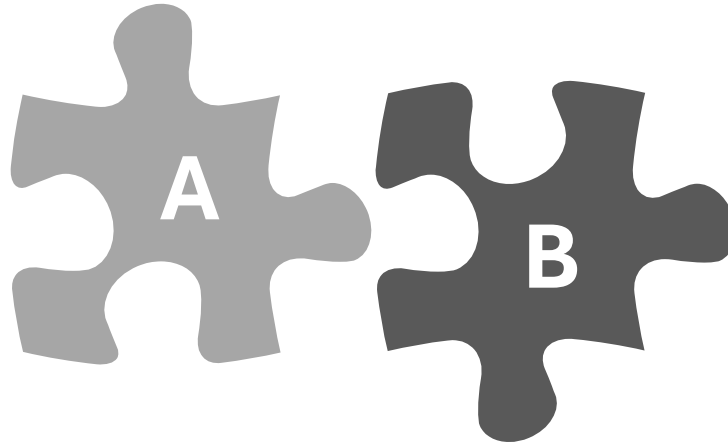
Raw Material

Results of the computation



Reviewing HCC's emission factor database

Update
Existing
emission factors



Upgrade
Missing
emission factors
For HCC user community



We want to hear from you

Our goals for the HCC

We make emission factors accessible and reliable

Reliability

Factors from trusted sources
(ADEME, GHG Protocol),
regularly reviewed

Completeness

Cover as many activities as possible
so partners don't have to hunt

We know we can't cover everything, but we prioritise what matters most





Quick poll

What **are your main challenges with the emission factors** in the HCC?

The Climate Action Accelerator wants to help you,
we want to hear from the HCC user community

How we update factors

We update based on impact, not just age

Date

Older than 2 years? → Flag for review

Usage

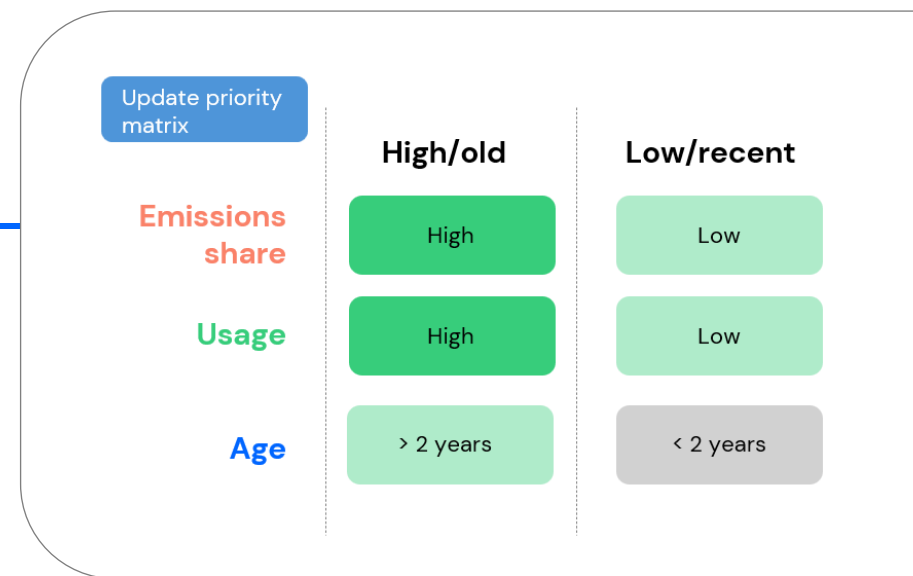
Do partners use this factor frequently? (e.g. 80% need electricity factors)

Emissions share

Does this factor move the needle? (e.g. Transport = 40% of emissions)

Comment

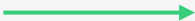
DEFRA vs ADEME (or other database) / how to choose if we have multiple options?



In practice: An update example

Here's how an actual factor update happens

Gathering the information

Last 4 carbon footprints calculated by the Accelerator  Number of occurrences of each EF

Already updated EF

Carbon analysts often update EF on their own, we only need to add these in the HCC database after checking the source

Next steps

Score to prioritise EF to update linking occurrences and EF value





Quick poll

You have an opportunity to influence adding new emission factors in the upcoming HCC v3 (Oct 2026),

What emission factors are you missing?



If you need more time to think about a more comprehensive list, share it with us via email:

analyticscontact@climateactionaccelerator.org



Closing the gaps

Missing factors are real, but we identify and prioritise them smartly

Gap identification

Partner feedback + usage data + emissions analysis = what's missing?

Specificity trade-off

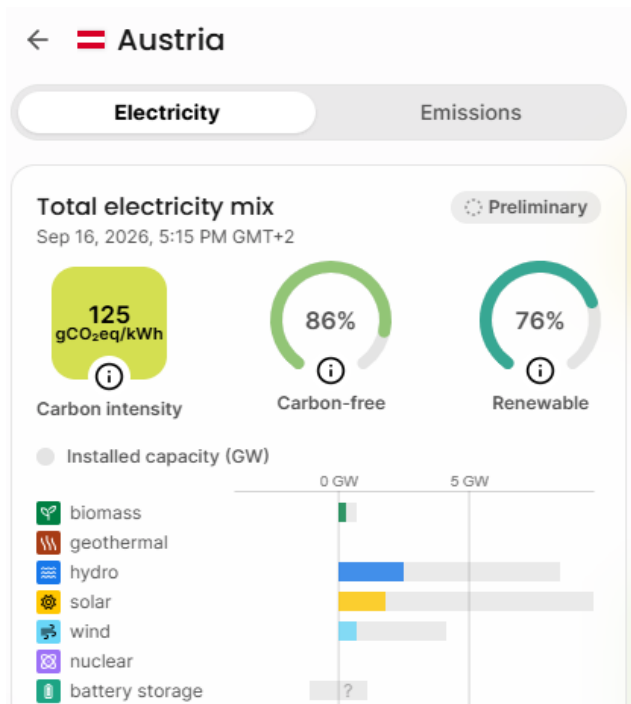
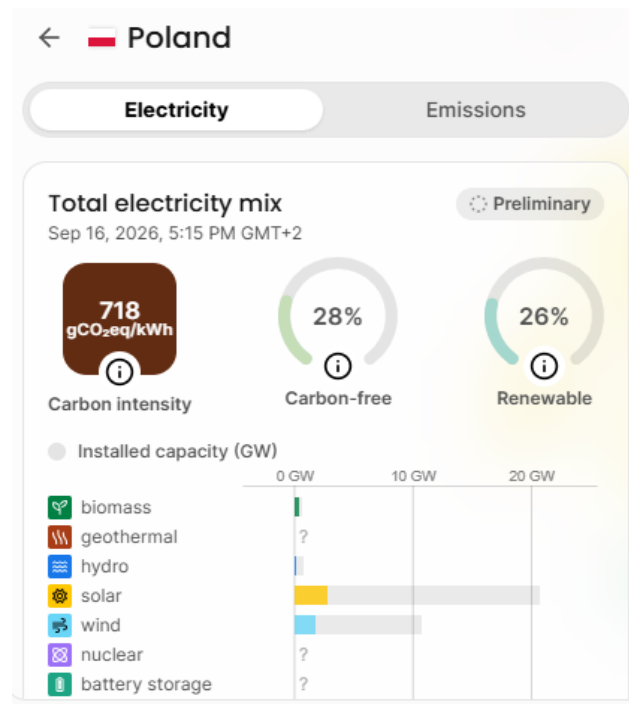
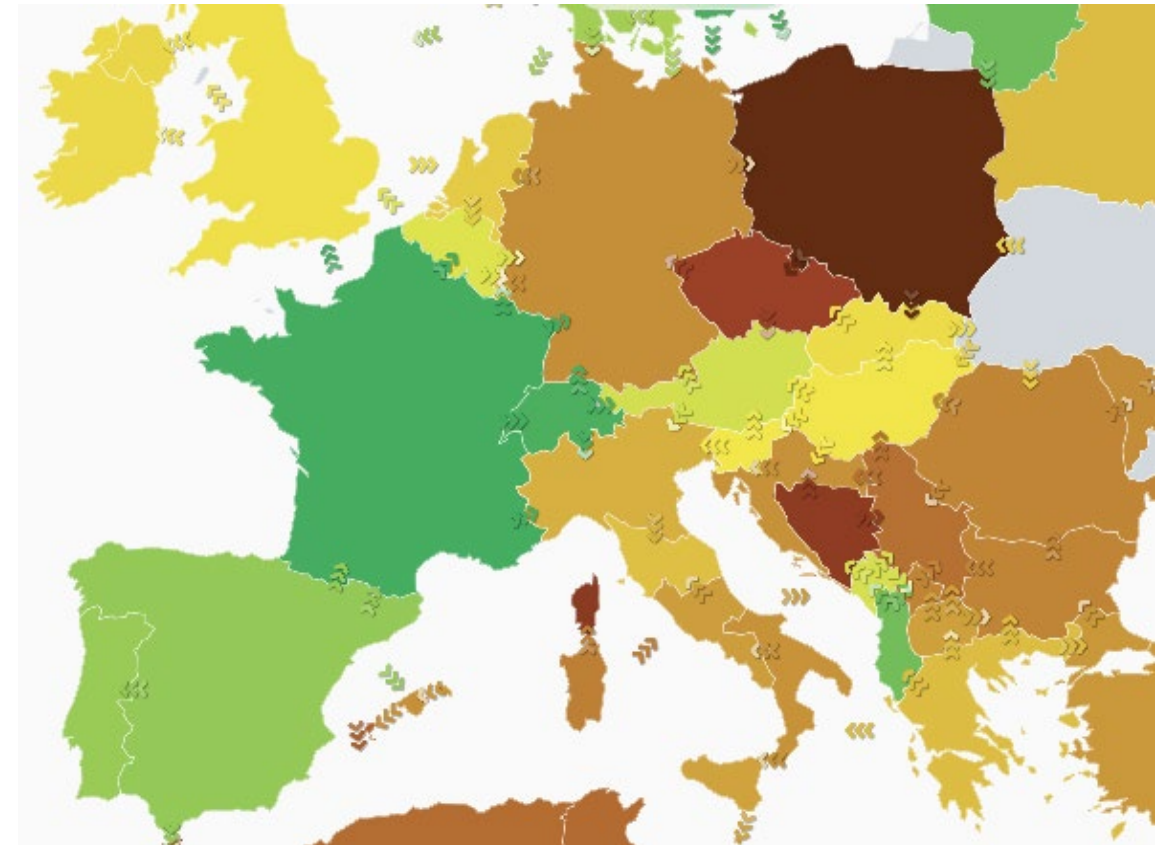
Sometimes generic is fine. Sometimes you need country-specific or product-specific. Depends on your decision.

Assessment

We assess each gap: Is it critical? Is data available? Is it humanitarian-relevant?



Electricity



Geographic Specificity matters the most

Travel

Travel

Differences among type of transport :

- Car : 0,23 kgCO₂e/km
- Plane : 0,13 kgCO₂e/passenger.km

But also, inside a type of transport:

- Plane – Long-haul – Economy class :
0,12 kgCO₂e/passenger.km
- Plane – Long-haul – Business class :
0,34 kgCO₂e/passenger.km



The level of detail of the physical data is valuable

Procurement

Procurement

Generic EF by sector :

- Pharmaceutical products : 500 kgCO₂e/k€
- Purchase of IT equipment : 700 kgCO₂e/k€

And within a sector :

- Desktop computer : 169 kgCO₂e/unit
- Printers : 88 kgCO₂e/unit



From specific to sectoral EF

Key takeaways

Remember these five things and you're set

- 1 Source & scale vary by geography, product, time
Understand which **dimension matters** for your decision
- 2 Unit errors are catastrophic; **perfection doesn't exist.**
Accept transparent assumptions
- 3 We prioritise **updates** by: age + usage + emissions impact
- 4 HCC is your shortcut. Help us prioritise the **database upgrades** so it matches your needs: tell us which emission factors are you missing





Q&A / peer exchange



What's next?

Block 3: Technical sessions

Emission factor
database update

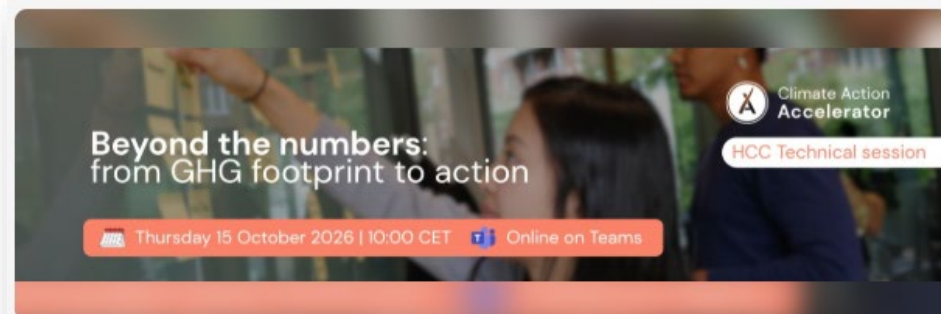
17 Sep

Introducing
HCC v3

26 Nov

9 Jul

Data collection
challenges



Thursday, October 15, 10:00 AM Upcoming

**Technical session - Beyond the numbers:
from GHG footprint to action**

Factors and footprint are half the story;
taking action is the next



- **Comparing footprints over time**
- **identifying hotspots**
- **turning data into actionable decisions**

Register

🕒 Thursday, October 15, 10:00 AM - 11:00 AM

📍 Online

🌐 Anyone can view and join.



Additional support available



Contact us for additional support:
analyticscontact@climateactionaccelerator.org



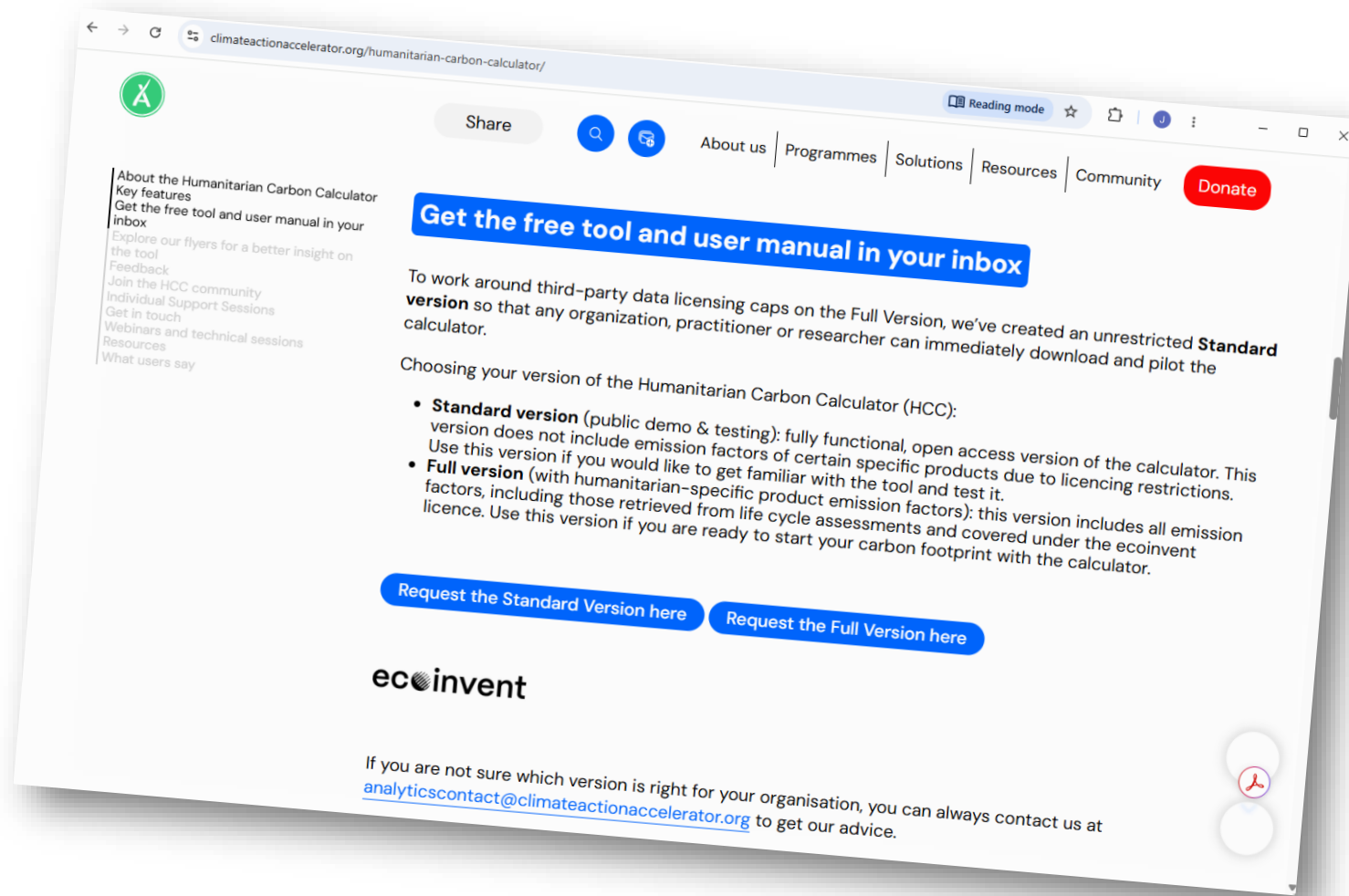
Remember you can **book an individual support session**,
if needed



HCC peer support community (Teams channel)
Not yet registered, drop us a quick email to join it:
analyticscontact@climateactionaccelerator.org



You can download and use for free the calculator from the HCC's webpage



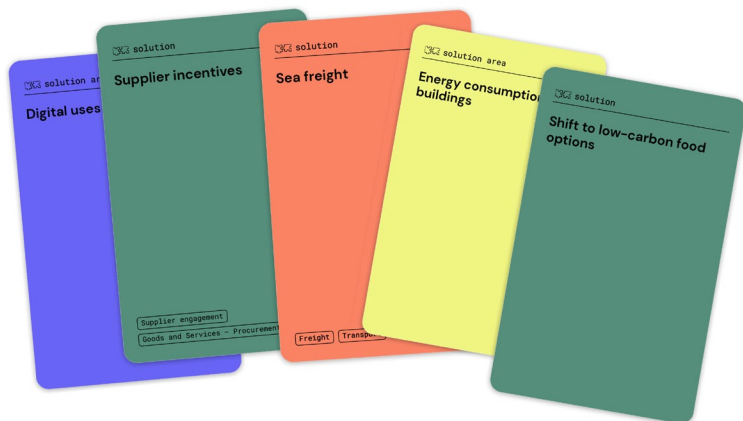
<https://climateactionaccelerator.org/humanitarian-carbon-calculator/>



SOLUTIONS HUB

Understand the topic

- 1 Generic Solutions List
- 80+ solution factsheets covering key areas to reduce the climate and environmental impact of an organisation
- 1 Overview of quick and easy wins



TOOLKITS

Implement solutions

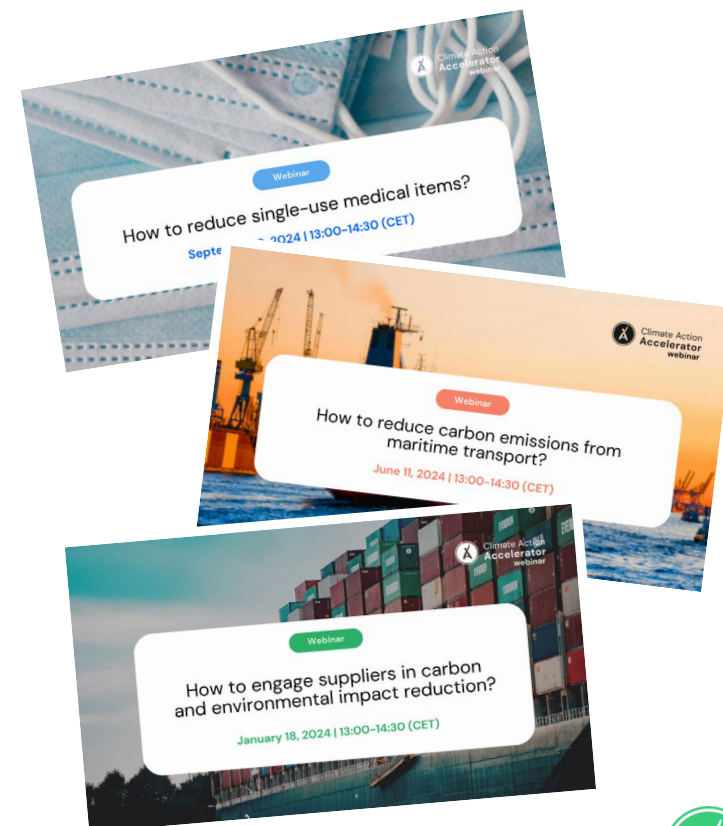
- Professional travel
- Good office practices
- Procurement
- Fleet
- Solarisation
- Waste characterisation
- Events



WEBINARS

Get inspired

- > 25 webinar replays online



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